

REMARKS

In the Advisory Action dated December 23, 2003, the Examiner stated that the amendments in the Response to Final Office Action filed on November 14, 2003 would not be entered as they raise new issues and require additional search and consideration. Applicants respectfully assert that the amendments provided in this Preliminary Amendment do indeed overcome the Examiner's rejections and objections and are allowable.

Any fees under 37 C.F.R. §§ 1.16 to 1.21 have been calculated after cancellation of claims and after amendment of claims by this Preliminary Amendment and the Commissioner is authorized to deduct said fees from Advanced Micro Devices, Inc. Deposit Account No. 01-0365/TT4141.

Claims 1-18, 23, and 42-47, remain pending in this application. Additionally, new claims 56-61 have been added. Therefore, claims 1-18, 23, 42-47, and 56-61 are pending in the present application.

Claims 17, 23, and 42 have been amended to correct a punctuation error. Applicants acknowledge and appreciate the Examiner's withdrawal of the restriction requirement of claim 23 and the allowance of claim 23.

The Examiner objected to claims 11-13 and 44 because the claims recite the limitation "said acquired model." Claims 11 and 44 have been amended to provide sufficient antecedent basis for the limitation in the claim. Therefore, claims 11-13 and 44 are now in condition for allowance. Claims 11-13 and 44 are allowable for at least the reasons cited above.

The Examiner rejected claims 1-3, 7, 9, 10, 14, 15, 18, 42, 43, and 45-47 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,581,029 (*Fischer*). Applicants respectfully traverse this rejection.

In the Final Office Action dated October 20, 2003, the Examiner argued that since the purpose of simulating is to optimize variables for manufacturing, as disclosed in *Fischer*, it would have been inherent to interface the simulation with the process control environment. Applicants respectfully disagree. Merely because *Fischer* discloses simulating to optimize various variables does not follow that the simulation function is actually interfaced with the process control environment as called for by the amended claim 1 of the present invention. Optimizing variables may include calculating new values for the variable based upon simulation. However, *Fischer* still does not disclose or suggest interfacing the simulation function with the process control environment. Furthermore, *Fischer* does not disclose generating a first model to perform a simulation and then generating a second model for processing semiconductor devices, wherein the operation of the first model is actually capable of affecting the second model; and then interfacing the simulation function with the process control environment using the first or the second model. These elements called for by claim 1, as amended, are not disclosed or suggested by *Fischer*.

The Examiner cites *Fischer* to disclose a simulation process for the creation of a simulated device. Variables in the associated process steps may be varied to generate a simulated semiconductor device. See column 1, lines 27-54. *Fischer* generally relates to modules that are used to perform simulation, as well as to a system for eliminating redundant modules in a simulation system. See column 5, lines 10-39. However, *Fischer* does not disclose performing process simulations to produce simulation data using the first and second models,

and interfacing the simulation data with an actual process control environment for controlling the manufacturing process of an actual semiconductor device, as called for by claims 1 and 42 (as amended) of the present invention.

Fischer merely discloses performing simulations to generate a simulated semiconductor device. See column 1, lines 33-36. *Fischer* discloses utilizing executable modules that may represent steps in process simulation flow and optimizing the modules to reduce redundancy of the modules. *Fischer* does not disclose interfacing the simulation data to actual manufacturing of semiconductor devices. The disclosure of *Fischer* is in the realm of the creation of a simulated device. Therefore, *Fischer* does not disclose the process simulation function and the interfacing of simulation data resulting from a process simulation function with an actual process control environment for controlling the actual manufacturing process of a semiconductor device. Therefore, *Fischer* does not disclose all of the elements of claim 1. One of ordinary skill in the art would not be able to disclose all of the elements of performing a process simulation to produce simulation data and interfacing the simulation data with a process control for actual manufacturing process control of the actual processing of the semiconductor device based upon the redundancy module optimization disclosed by *Fischer*. Therefore, claim 1 of the present application is allowable. Additionally, claim 42, which also calls for applying simulation results and interfacing the results with an actual process control environment, is also allowable for at least the reasons cited above. Furthermore, newly added claims 56-61, which comprise subject matter that the Examiner said is allowable (*e.g.*, subject matter similar to claims 11-13, 16, and 17), are also allowable for at least the reasons cited above.

Independent claims 1 and 42 (both as amended) are allowable for at least the reasons cited above. Claims 2-18, which depend from independent claim 1, and claims 43-47, which

depend from independent claim 42, are also allowable for at least the reasons cited above. Additionally claims 56-61 are also allowable for at least the reasons cited above.

Applicants also assert that the newly added claims 56-61 are also allowable for at least the reasons cited above. In fact, the newly added claims 56-61 have similarities with the claims that were objected to by the Examiner, which the Examiner stated would be allowable if they had been written in an independent fashion (claims 11-13, 16, and 17). Therefore, Applicants respectfully assert that claims 56-61 are also allowable.

The Examiner rejected claims 4-6 and 8, under 35 U.S.C. § 103(a) as being unpatentable over *Fischer*. Applicants respectfully traverse this rejection.

Applicants respectfully assert that claims 4-6 and 8 are not obvious to one skilled in the art upon a reading of *Fischer*. The Examiner states that *Fischer* does not explicitly teach the process task of defining photolithography, etch, chemical mechanical polishing (CMP), and diffusion process tasks and states that it would have been obvious to one of ordinary skill in the art to include these process tasks upon a reading of *Fischer*. Applicants respectfully disagree. Since *Fischer* does not disclose all of the elements of the underlying claims, which were amended, from which claims 4-6, and 8 depend (*i.e.*, claim 1), using the argument that one of ordinary skill in the art would implement photolithography, etch, CMP, and diffusion process tasks, to the teaching of *Fischer* would still not result in all of the elements called for by claims 4-6 and 8. As described above, the underlying claim 1, from which claims 4-6, and 8 are dependent, are not disclosed, taught, or suggested by *Fischer*, therefore, merely adding the concepts of photolithography, etch, CMP, and diffusion processes, would not be able to make

obvious the subject matter called for by claims 4-6, and 8. Therefore, claims 4-6, and 8 are allowable for at least the reasons cited above.

Applicants acknowledge that the Examiner allowed claim 23. In light of the arguments presented above, Applicants respectfully assert that claims 1-18, 42-47, and 56-61 are also allowable. In light of the arguments presented above, a Notice of Allowance is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Houston, Texas telephone number (713) 934-4069 to discuss the steps necessary for placing the application in condition for allowance.

Respectfully submitted,

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